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Proposed Final Report

State Board of Health Priority: Health Disparities

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May 9, 2001

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Executive Summary

Washington State is in a period of unprecedented population growth and the greatest growth is projected among racial and ethnic minority populations. State Board of Health findings confirm that these rapidly expanding populations bear a disproportionate burden of disease and premature death. Several studies have shown that we can improve the health status of racial and ethnic minorities by creating a health-care workforce that mirrors the diversity of the populations it serves. Washington State, however, has a critical shortage of people of color in the health professions. The state's racial and ethnic minority groups are grossly under represented in our health-care workforce and underserved by our health-care system.

Health disparities are clearly evident in Washington State:

- The infant mortality rate for Native Americans and African Americans is more than double the rate for Caucasians.
- African Americans are more than three times as likely as Caucasians to die from HIV/AIDS and diabetes.
- The rate of tuberculosis for Asians is more than 15 times greater than it is for Caucasians.
- Compared to Caucasians, Native Americans are two and one-half times more likely to die from diabetes and almost twice as likely to die from cervical cancer and asthma.

A growing body of research shows that a diverse health-care workforce can improve the health status of racial and ethnic minorities. In the same way that female health providers have increased the quality, accessibility, and responsiveness of our health-care system for women and girls, health-care professionals who share a common language and/or racial and ethnic background with their patients are likely to improve quality, accessibility, and responsiveness for those patients. Minority practitioners are also five times more likely to provide health care to poor and underserved patients, and they are more likely to practice in underserved areas. In these ways, minority health-care providers have a greater positive impact on health status among minority populations.

The Washington State Board of Health has identified Health Disparities as one of its priorities. While the Board recognizes and supports efforts to increase the cultural competence of all providers, the Board's Subcommittee on Health Disparities believes it is possible to improve our state's health status significantly by focusing on increasing the minority health-care workforce.

The Subcommittee, which comprises Board members Joe Finkbonner, Vickie Ybarra, and Margaret Pageler, researched the many current efforts to diversify our state's health-care workforce. It sought and received input from representatives of statewide racial and ethnic minority groups, provider groups, public health organizations, and educational institutions.

The Subcommittee identified multiple opportunities to build a more diverse health-care workforce. They include: promoting recruitment and retention programs to prepare students of color during their K-12 education so that they will be more competitive in applying to colleges and health-care professional schools; encouraging foreign-trained health-care providers to practice in Washington state; encouraging mid-career training for health-care workers who want to advance their credentials; and establishing outcome measures to assess whether programs are effective.

The Subcommittee examined the current academic pipeline that represents how a subset of our health-care workforce develops—starting in the primary grades, flowing through secondary, post-secondary, graduate, and professional schools, and ending with professional licensing. The Subcommittee recognizes that our state’s health-care workforce comprises members of dozens of licensed and otherwise credentialed professions, as well as others whose special expertise is essential to maintaining and improving the health status of our state’s population. Physicians, nurses, and public health professionals are only a part of the picture. Health educators, community health activists, allied health professionals, health paraprofessionals, and others are all essential members of our state’s health-care team. But for purposes of illustrative analysis, the Subcommittee analyzed data for nurses with two-year degrees, physicians, and physician assistants. That analysis shows that a student of color who enters the pipeline in kindergarten is only half as likely, compared a Caucasian student, to emerge from the other end as a doctor, nurse, or physician assistant. In the Subcommittee’s judgment, the current academic pipeline is inadequate to serve our state’s increasingly diverse citizens.

The Subcommittee was heartened to see that our education and health institutions, both public and private, share an interest in diversifying our health-care workforce; it witnessed successful programs in both the public and private sector. Efforts by organizations such as the Bill and Melinda Gates Foundation, the Washington Department of Health, the U.S. Health Resources and Services Administration and the U.S. Department of Education are already making a difference. (The Subcommittee is very concerned about current state and federal budget proposals that might restrict or eliminate some of these programs.) Programs designed to address workforce shortages in rural areas—for example, the state’s Scholarship and Loan Forgiveness Program, the activities of the Area Health Education Centers (AHECs), and the efforts of the University of Washington School of Medicine—demonstrate that focused attempts to recruit and train health-care providers to meet specific workforce needs can be successful. The Subcommittee believes, however, that existing efforts to diversify the health-care workforce need to be strengthened, expanded, and coordinated.

The Subcommittee believes the effectiveness of workforce diversification efforts could be improved by:

- Ongoing data collection to show the degree to which diversity is improving;
- Guidelines that can help shape new programs and refine existing programs to improve the likelihood that they will be successful;
- An assessment tool for consistently measuring the cumulative impact of these programs at various points along the pipeline; and
- Oversight and coordination across programs to assure they are effectively promoting a diverse health-care workforce.

Based on the Board's informed belief that a diverse health-care workforce can improve the health status of racial and ethnic minorities in Washington—and of the overall state population—the Subcommittee has developed the following recommendations for consideration by the State Board of Health.

Recommendation 1: Enumerate the composition of the health-care workforce

The Subcommittee recommends that associations of health professionals—including at least those for physicians, nurses, dentists, pharmacists, mental health workers, health educators, environmental health workers, and public health nurses—initiate efforts to regularly collect and disseminate the racial and ethnic composition of their Washington memberships. These associations could initiate these efforts independently or they could collaborate with agencies such as the University of Washington's Health Care Workforce Resources Center, the Public Health Improvement Partnership, the state Hospital Association, or private foundations.

Recommendation 2: Establish guidelines for health career development programs

The Subcommittee recommends that organizations or individuals interested in developing, funding, or assessing programs that seek to increase the number of minority health-care workers consider the following guidelines:

For all health career development programs:

1. Establish and track outcomes
2. Recruit from populations with disproportionate disease burden and/or underserved communities
3. Provide access to tutorial academic support
4. Provide mentoring
5. Assure program continuity by implementing a strategy for continued funding or inclusion in “mainstream” educational institutional practices
6. Provide articulation between programs

For early education efforts

1. Initiate early in a child's education (grade school)
2. Build a strong foundation in math, science, and reading
3. Promote parent involvement in the student's education

Middle school and high school:

1. Initiate efforts to spark interest in a health-care career as early as possible
2. Provide opportunities for health-related jobs, internships, and volunteering
3. Provide students with information on colleges and link students with college admissions representatives and health professional school representatives

Recommendation 3: Facilitate training and credentialing of people with prior health-care experience

The Subcommittee recommends that licensing boards explore ways to expand the roles of qualified minorities who already have some health-care training—namely, foreign-trained health professionals and mid-career health workers interested in advancement. Opportunities include ensuring that the credentialing process provides appropriate credit for prior training and experience (whether obtained here or abroad) and creating internships and supervised practice opportunities for foreign-trained and mid-career professionals who are working on completing Washington credentialing requirements. Community clinics, hospitals, and practices experiencing shortages of minority providers should also consider recruiting foreign providers through the H1 Visa Program.

Recommendation 4: Create a Graduate Medical Education (GME) incentive pool

The Subcommittee recommends that the Department of Social and Health Services (DSHS) set aside a portion of the total Graduate Medical Education funds to create a GME Incentive Pool that can be leveraged to help diversify our health-care workforce. The DSHS should encourage hospitals seeking GME funds to recruit under-represented minority residents or direct these funds in other ways, as outlined in this report, to bolster health-care workforce diversity.

Recommendation 5: Develop a health-care workforce diversity report card

The Subcommittee recommends development of a report card that assesses the diversity of the health-care workforce. Elements of the report card should include:

- High school graduation rates by race and ethnicity
- Two-year and four-year college graduation rates by race and ethnicity
- Professional school enrollment by race and ethnicity
- Newly licensed practitioners by race and ethnicity
- Total practicing health providers by race and ethnicity

Recommendation 6: Coordinate Health-Care Workforce Diversity Efforts

The Subcommittee recommends that associations for the state's health-care practitioners, hospitals, community clinics and public health officials convene a broad-based, public/private panel to coordinate efforts to improve health-care workforce diversity. Interested representatives from public and private institutions including state agencies (Office of the Superintendent of Public Instruction, State Board of Community and Technical Colleges, Higher Education Coordinating Board, Department of Health, Department of Social and Health Services, Workforce Training Board), AHECs, academic research centers, organized labor, private philanthropic foundations, and other interested parties should participate to review one another's efforts, improve and review data collection, and evaluate the effect of programs overall. The panel should review, refine, and promote the use of the guidelines contained in this report and compile the recommended report card. It should also ensure that organizations around the state are aggressively pursuing public and private funds to expand existing efforts. Finally, it should consider whether the state needs a mechanism for systematically analyzing and developing its health-care workforce, and if so, recommend a mechanism. The Board should ask the convening associations to report back by fall 2002 on the status of efforts to diversify Washington's health-care workforce.

Introduction

The past 50 years have witnessed profound advances in health care. Dramatic cures and vaccine development have greatly reduced the risks posed by infectious diseases such as diphtheria, pertussis, and polio. People infected with HIV are living longer, healthier lives. A better understanding of metabolic pathways has led to discoveries that allow people to live more productive lives with diabetes and other diseases.

Unfortunately, not everyone is benefiting equally from this progress.

In both the United States and Washington State, segments of our population have significantly poorer health outcomes, including more frequent premature deaths, than the rest of the population. Unequal improvements in health status—or health disparities—are particularly notable in rapidly growing racial and ethnic minority populations. Despite striking progress in improving the overall health of the nation and the state, a disparate burden of illness and premature death exists among African Americans, American Indians and Alaska Natives, Asian/Pacific Islanders, and Hispanics in Washington.

In response, the State Board of Health identified health disparities as a top priority for 2000-2001. Many people already are doing excellent work on a variety of fronts to address health disparities nationally and in Washington State. To complement those efforts and to make a distinct contribution, the Board has focused on increasing the racial and ethnic diversity of our health-care workforce.

Improved diversity in the health-care professions has clear implications for the health of people of color. Minority health professionals are more likely to practice in communities of color. Research shows that under-represented minority providers are five times more likely to provide care to underserved populations and practice in underserved areas.¹ According to a growing body of research, when people of color seek medical care, the quality of the care received and the clinical outcomes achieved are better if clinician and patient share a similar ethnic, cultural, language and/or geographic background. While the Board supports ongoing efforts to increase the cultural competence of all health-care providers, it believes we can significantly improve our state's overall health by increasing the minority health-care workforce to better serve minority populations.

Diversity in the health-care workforce is more than an equity issue for people of color who want to pursue health careers; it is critical to ensuring that large and growing segments of our population are not left on the side of the road as medical science marches forward. Workforce parity is a public health issue with profound ramifications. It directly affects the overall health of the state. Diversity leads to better health status. As health status improves for the state's racial and ethnic minorities, overall health outcomes for all Washingtonians should also improve, medical costs and costs from premature deaths should decrease, and the overall well being of the state should advance.

¹ Health Resources and Services Administration (HRSA), Bureau of Health Professions, Department of Health and Human Services [The Secret Ingredient of the National Prevention Agenda: Workforce Development](#), 2001.

Overview

Health Disparities describes the disproportionate burden of disease, disability and death among a particular population or group when compared to the general population. The existence of serious health disparities among racial and ethnic groups in the United States is well documented, and the importance of the problem is increasingly acknowledged.

In 1998, President Clinton announced the Racial and Ethnic Health Disparities Initiative, which set a national goal of eliminating disparities in the health status of racial and ethnic minorities by 2010. This initiative makes the health targets for minority groups the same as for *all* Americans. The initiative's purpose parallels the focus of Healthy People 2010,² which sets national health objectives for the first decade of the century. A goal of Healthy People 2010 is to eliminate health disparities in the following six areas:

1. **Cancer Screening and Management:** People of diverse racial, ethnic, and cultural heritages are less likely to get regular medical check-ups, receive immunizations and be routinely tested for cancer, compared with the majority of the U.S. population.
2. **Cardiovascular Disease:** Disparities exist in the prevalence of risk factors for coronary heart disease and stroke. Racial and ethnic groups have higher rates of hypertension, tend to develop hypertension at an earlier age, and are less likely to undergo treatment to control high blood pressure.
3. **Diabetes:** Diabetes, the seventh leading cause of death in the United States, is much more common in African Americans and Hispanic Americans. Native Americans and African Americans have higher rates of diabetes-related complications such as kidney disease and amputation.
4. **HIV/AIDS:** HIV/AIDS has a disproportionate impact on racial, ethnic, and linguistically diverse groups, especially for women, youth and children.
5. **Immunizations:** Levels of vaccination for school-age children and elder adults of diverse racial and ethnic backgrounds lag compared to the whole population.
6. **Infant Mortality:** Current studies reveal that despite recent advances, African American and Native American infants die at a rate that is two to three times higher than for Caucasian babies in the United States.³

The Board of Health, struck by the severity of health disparities among racial and ethnic groups and the implications that has for public health, selected health disparities as one of its five priorities for 2000-01 and established a Subcommittee on Health Disparities.

² Healthy People 2010 is a federal initiative to improve health status based on set goals and objectives by the year 2010.

³ Policy Brief 1, *Rationale for Cultural Competence in Primary Health Care*, 1999, National Center for Cultural Competence, Georgetown University, Winter 1999.

After examining health disparities and surveying efforts to address them, the members of the Subcommittee—Board members Joe Finkbonner, Vickie Ybarra, and Margaret Pageler—decided the Board could make a significant and unique contribution by focusing on health-care workforce diversity.

The Subcommittee recognized that many factors contribute to health disparities, including poverty, behavior and lifestyle, nutrition, access to health-care services, genetic predisposition, education level, employment and acculturation. It also recognized that many organizations—public and private, state and national—are at work on several fronts to alleviate health disparities. The Subcommittee’s early analysis, however, indicated that promoting workforce diversity was a critical area of work that deserved more attention.

The Subcommittee’s initial survey of existing programs to address health disparities, minority recruitment and development, and health-care workforce development:

- Some programs designed to eliminate disparities have workforce-related goals;
- Some programs designed to fix workforce shortages have diversity-related goals;
- Some programs designed to increase participation by students of color in higher education have health-related goals; and
- A few programs exist specifically to recruit and train people of color for the health professions.

The survey also found that no health disparities programs have chosen workforce diversity as a primary focus and no workforce development programs have specifically focused on reducing health disparities. The survey also suggested that existing efforts to diversify the health-care workforce could and should to be strengthened, expanded, and coordinated.

The Subcommittee then formulated a hypothesis—that health disparities among racial and ethnic minorities could be reduced by fortifying efforts to diversify the health-care workforce—and set out to test that hypothesis by exploring several areas of research and conducting analysis:

- It confirmed that health disparities are a significant problem in Washington State. Its review of available data suggests that health disparities for key diseases are perhaps more severe in Washington State than they are in the nation as a whole.
- It examined additional literature reviews to establish that diversifying the health-care workforce could ameliorate the disproportionate disease burden for racial and ethnic minority groups. Existing research clearly establishes the likely impact of this approach.

- It examined the racial and ethnic composition of a segment of the health-care workforce and confirmed that the state’s current workforce does not reflect the diversity of the population it serves. It also estimated the number of additional minority health-care providers that would be needed to achieve parity based on the population; then it estimated the number that would be needed to achieve parity based on disease burden.
- It studied the education, training, and licensing “pipeline” that represents how a subset of our health-care workforce develops—starting in the primary grades, flowing through secondary, undergraduate, graduate, and professional schools, and ending with professional licensing. The Subcommittee determined that the current pipeline is inadequate to close the gap between the current number of minority health professionals and the number needed to provide parity.
- It reviewed existing programs that encourage people of color to enter the health-care workforce with an eye toward determining what makes a program successful, how existing programs can be more effective, and whether opportunities exist to expand the number and scope of these programs. The Subcommittee was heartened to see that our education and health institutions, both public and private, share an interest in diversifying our health-care workforce; it witnessed numerous successful programs in both the public and private sector. It also reaffirmed, however, that minority workforce development programs should be expanded, improved, and better coordinated.
- Finally, it identified specific opportunities for increasing the effectiveness of minority workforce development programs. These include suggestions about the need for data and tools for assessing the overall effectiveness of these efforts, guidelines for structuring successful programs, opportunities to better leverage existing education dollars, ways to encourage training and licensing of qualified minority health-care workers who have been trained abroad or are seeking to advance their credentials, and a structure for increasing the level of coordination across programs.

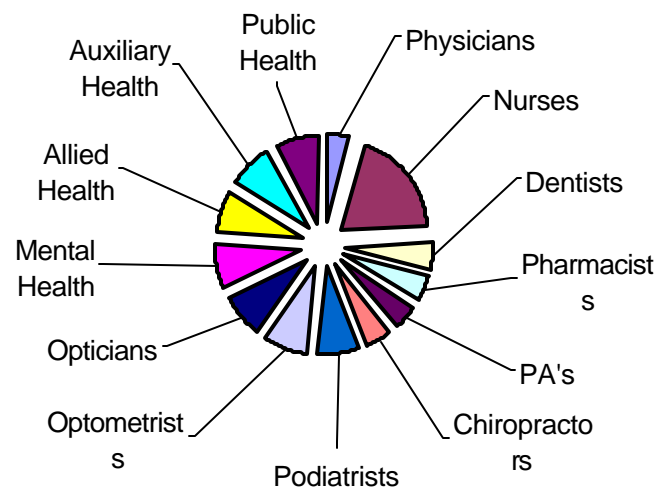
To inform all stages of its work, the Subcommittee convened a broad-based advisory group of representatives from organizations already involved in health disparities efforts and workforce development. This group of stakeholders, called the “Minority Health-care Workforce Development Workgroup”, included ethnic and racial minority groups; primary, secondary, and higher educational institutions; state agencies; tribal governments; local health jurisdictions; professional associations, area health education centers, and community-based organizations. (See Appendix B for a list of workgroup members.) The workgroup met three times over one year to examine issues, review data and findings, and evaluate recommendations.

The Subcommittee's work was restricted in several ways by holes in the available data. In particular, there was limited data about the racial and ethnic composition of the health-care workforce and about the number of people of color participating at various points along the workforce development pipeline.

Data holes, the size and complexity of the health-care workforce, and the limited resources available to the Board meant that the Subcommittee had to analyze representational subsets of the health-care workforce. Analyzing the entire health-care workforce was impractical and, given the data available, often impossible.

The Subcommittee recognizes, however, that the health-care workforce comprises physicians; nurses; dentists; non-physician clinicians such as physician assistants, chiropractors, podiatrists, optometrists and opticians; pharmacists; mental health workers; allied health professionals; auxiliary health professionals; and public health professionals.

The Health Care Workforce



SOURCE: Washington State Health Workforce Profiles, Health Resources and Services Administration, Dec. 2000.

The Subcommittee also recognizes that race and ethnicity are much more complicated concepts than most datasets suggest. The research and analysis in this report repeatedly refers to the major racial and ethnic categories most commonly used for data collection in this country—African American, Native American, Hispanic, and Asian/Pacific Islander. The Subcommittee recognizes, however, that these categories are fairly crude. For example, the health conditions experienced by a fifth-generation American of Japanese descent might be quite different from those experienced by a Hmong immigrant who recently arrived from a Thai refugee camp. The Subcommittee also recognizes that Caucasian ethnic groups—recent immigrants from Russia, for example—might also benefit from having access to health professionals who share a common language and a similar cultural background.

This report explains the work performed by the Subcommittee and describes its findings. It discusses health disparities in Washington State and reviews the research that supports the concept that greater workforce diversity will improve health outcomes for people of color. It describes the lack of the diversity in the state's current health-care workforce and attempts to quantify the gap between where we are as a state and where we need to be. It examines the shortage of potential future minority health-care workers in the workforce development pipeline and reviews programs that contribute to improving diversity in the health-care workforce. Finally it lists the Subcommittee's recommendations for assessing, strengthening and coordinating these efforts.

Findings

Health Disparities in Washington State

Of the nearly 6 million people living in Washington, the largest population group by far is Caucasians (81.8 percent). The Hispanic population cuts across racial and ethnic groups and makes up the second largest population group (7.5 percent of the total population). The U.S. Census 2000 also revealed that 5.9 percent of the population is Asian; 3.2 percent is African American; 1.6 percent is Native American and Alaska Native; and 0.4 percent is Native Hawaiian and Other Pacific Islander. Washington has 29 federally recognized American Indian Tribes.

Table 1: Percent of population by race and Hispanic or Latino origin for all ages of Washington and the U.S. 2000

Race/Ethnicity	% Total Population, Washington State	% Total Population, United States
Caucasian	81.8%	75.1%
African American	3.2%	12.3%
Asian	5.9%	3.6%
Native American	1.6%	0.9%
Native Hawaiian/Pacific Islander	0.4%	0.1%
Hispanic (all races)	7.5%	12.5%

Note: totals are greater than 100 % because Hispanic ethnicity includes all races

SOURCE: U.S. Census Bureau, Census 2000 Redistricting Data

The state is in a period of unprecedented population growth and the greatest future growth is projected to occur among racial and ethnic minority populations. According to U.S. Census 2000, Washington State will continue to become more diverse. Eighteen percent of our population now comprises racial and ethnic minorities; this is expected to grow to 25 percent over the next several years.

The Subcommittee's review of epidemiological data confirmed that Washington's racial and ethnic minorities have poorer health status than the state's overall population.

Compared to Caucasians:

- African Americans and Native Americans are twice as likely to die in infancy (one of our state's Indian tribes has one of the highest rates of infant mortality in this country)
- African Americans are more than three times more likely to die from HIV infection, while Hispanics are 1.5 times more likely to die from the virus.
- African Americans are three times more likely to die from diabetes; the rate of death from diabetes is nearly 2.5 times higher for Native Americans and nearly 1.5 times higher for Hispanics.
- African Americans, Asian/Pacific Islanders and Native Americans are nearly twice as likely to die from cervical cancer.
- African Americans are twice as likely to die from asthma; Asian/Pacific Islanders and Native Americans die from asthma at 1.5 times the Caucasian rate.
- Asians experience more than 15 times the rate of tuberculosis; the rate for Native Americans nearly seven times greater and the rate for African Americans and Hispanics nearly six times greater.

It is certainly not the case that all minority groups have poorer health outcomes for all disorders. According to the *Washington 2000 State Health Profile*, for example, Hispanics were less likely than Caucasians to die during 1995-97 from all four leading causes of death—heart disease, stroke, cancer, and chronic obstructive pulmonary disease. Compared to Caucasians, the years of potential life lost before age 75 was slightly lower for Hispanics and markedly lower for Asians and Pacific Islanders, according to the Centers for Disease Control and Prevention report, which used data from the National Vital Statistics System.

Nonetheless, disparities affecting racial and ethnic minorities can be observed for 18 of 24 disease conditions found in the 1996 Department of Health report *Health of Washington State* and its 1998 *Addendum*. Epidemiological data for those 24 conditions shows African Americans have a disproportionate burden of disease for 18 conditions; Native Americans for 16 conditions; Hispanics for 11 conditions; and Asians for three conditions (see Appendix A). Disparities in health status for other demographic groups such as new immigrants also exist but are not described in this report.

Workforce Diversity and Health Disparities

The complete causal pathway that leads to poorer health outcomes for some racial and ethnic minority groups is not known. Part of the federal initiative to reduce health disparities includes increased funding for research to understand the multiple complex and interacting factors that contribute to disparities among racial and ethnic minorities as well as among low-income populations.

Risk factors believed to contribute to health disparities include poverty, behavior and lifestyle, nutrition, access to health-care services, genetic predisposition, education level, employment and acculturation. In addition, environmental and occupational exposures, racism and gender discrimination, and other contextual factors such as differing levels of insurance coverage and access to high-quality networks of preventive and primary care play important roles in creating health status disparities.^{4, 5, 6}

Given the broad array of contributing factors, it is no surprise that there exists a comparably broad array of potentially effective interventions to address health disparities. These include interventions aimed at decreasing poverty and increasing the educational attainment of minority populations. In addition, providing community-level disease-specific interventions, increasing access to care by expanding insurance coverage, and raising the level of cultural competence of all health-care providers have been shown to be promising.

A growing number of studies show we can improve the health status of racial and ethnic minorities by creating a health-care workforce that more closely mirrors the diversity of the population it serves. In the same way that female health providers have increased the quality, accessibility, and responsiveness of our health-care system for women and girls, health-care professionals who share a common language and/or racial and ethnic background with their patients are likely to improve quality, accessibility, and responsiveness for those patients. Minority providers are more likely to provide health care to poor and underserved patients, and practice in underserved areas.⁷ In these ways, minority practitioners have a greater positive impact on health status among minority populations.

⁴ Bollini, P., Siem, H. No Real Progress Towards Equity: Health of Migrants and Ethnic Minorities on the Eve of the Year 2000. *Families, Systems and Health*. 1997; 15: 263-274.

⁵ Cooper, R., Steinhauer, M., Schatzkin, A., Miller, W. Improved Mortality Among U.S. Blacks, 1968-1978: The Role of Antiracist Struggle. *International Journal of Health Services*. 1981; 11: 511-521.

⁶ Mantaner, C., Nieto, F.J., O'Campo. P. Race, Social Class, and Epidemiologic Research. *Journal of Public Health Policy*. 1997; 18: 261-274.

⁷ Health Resources and Services Administration, Bureau of Health Professions, Department of Health and Human Services The Secret Ingredient of the National Prevention Agenda: Workforce Development, 2001.

It has long been known that minority health-care providers are more likely to practice in underserved communities than their non-minority counterparts.^{8 9 10} Research demonstrates improved quality of care¹¹ and improved health outcomes¹² for patients of color if provider and patient share a common language and/or ethnic background.

The U.S. Commission on Civil Rights found that cultural incompetence of health-care providers, socioeconomic inequities, disparate impact of racially neutral practices and policies, misunderstanding of civil rights laws, and intentional discrimination all contribute to disparities in health status, access to health-care services, participation in health research, and receipt of health-care financing. In fact, the Commission states that evidence of discrimination by health-care providers and insurers is overwhelming. It finds numerous instances where individuals are either treated differently or denied treatment due to race, national origin or gender.¹³

A 1997 study published in the *American Journal of Public Health* examined whether racial and ethnic differences affect whether a child has a regular source for health-care. This study looked at differences in health insurance status, socioeconomic status, and language ability. The study found that African American and Hispanic children are at a substantial disadvantage when it comes to having a regular source of care and differences persist even when health insurance and socioeconomic status are held constant.

The study also found that the primary reason Hispanic children are less likely to have a regular source of care is because some parents have difficulty communicating about health-care in English. The study strongly suggests that the reasons Hispanic children have less access to care, a fact noted in previous studies, may be related to language ability and characteristics associated with being a non-English speaker, including differing knowledge of and beliefs about the health-care system and primary care.¹⁴

⁸ Moy, E, Bartman, BA (1995) *Physician Race and Care of Minority and Medically Indigent Patients*, *Journal of the American Medical Association*. 273(19) 1515-1521.

⁹ Komaromy, M, Grumbach, K, Drake, M, Vranizan, K, Lurie N, Keane, D, Bindman, AB (1996) *The Role of Black and Hispanic Physicians in Providing Health Care for Underserved Populations*. *New England Journal of Medicine*. 33(20), 1305-1310.

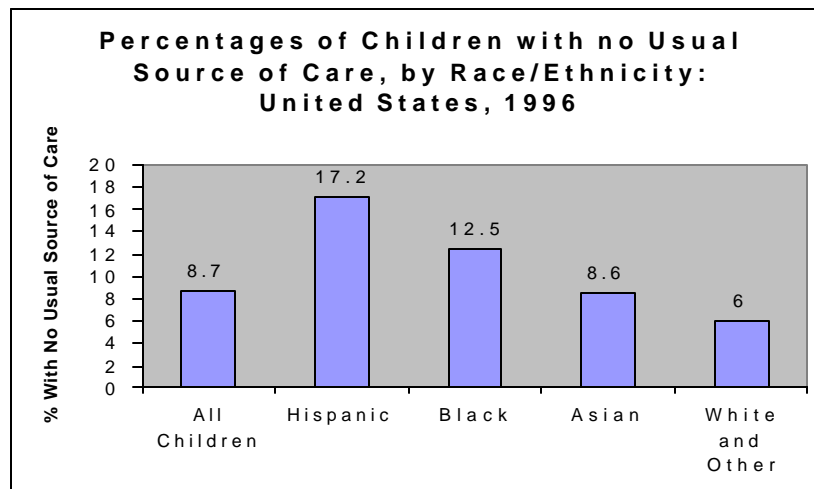
¹⁰ Xu, G, Fields, SK, Laine, M, Veloski, JJ, Barzansky, B, Martini, CJM (1997) The relationship between the race/ethnicity of generalist physicians and their care for the underserved populations. *American Journal of Public Health* 87(5), 817-822.

¹¹ Cooper-Patrick, L, Gallo, JJ, Gonzales, JJ, Vu, HT, Powe, NR, Nelson, of C, & Ford, DE (1999) "Race, gender, and partnership in the patient-physician relationship", *Journal of the American Medical Association (JAMA)*, 282(6), 583-589.

¹² Perez-Stable, EJ, Napoles-Springer, A, Miramontes, JM (1997), *The effects of ethnicity and language on medical outcomes of patients with hypertension or diabetes*, *Medical Care*, 35(12), 1212-1219.

¹³ *The Health Care Challenge: Acknowledging Disparity, Confronting Discrimination, and Ensuring Equality, Volume I, the Role of Governmental and Private Health Care Programs and Initiatives*, A Report of the U.S. Commission on Civil Rights, September 1999.

¹⁴ Robin M. Weinick, Nancy A. Krauss, "Racial/Ethnic Differences in Children's Access to Care," *American Journal of Public Health*, vol 90, No.11 (Nov 2000), pp. 1771-74.



A 1999 report in the *Journal of the American Medical Association* stated that both African American and Caucasian patients feel more involved in their health-care when their physicians are of the same race.¹⁵ The result is higher patient satisfaction, increased likelihood that the patient will follow through on treatment, and ultimately better medical care.

Cultural barriers—misunderstood customs, the inability to express one's health needs, and lack of trust in the health-care system—are factors that might hinder a physician's ability to provide adequate treatment to his or her patients.¹⁶ Data show that minority physicians are more likely than other doctors to serve minority patients. African American physicians are five times more likely than other doctors to treat African American patients.¹⁷ Similarly, Hispanic physicians are 2.5 times more likely than other doctors to treat Hispanic patients. One study of California communities showed that, independent of income, communities with a high percentage of minorities are likely to experience a shortage of physicians. Because African American and Hispanic doctors generally tend to practice in poor areas and areas with a high proportion of residents of their own race or ethnic group, minority doctors fill an important role in the community.¹⁸

¹⁵ Lisa Cooper-Patrick, Joseph J. Gallo, Junius J. Gonzales, Hong Thi Vu, Neil R. Powe, Christine Nelson, and Daniel E. Ford, "Race, Gender, and Partnership in the Patient-Physician Relationship," *Journal of the American Medical Association*, vol. 282 (Aug. 11, 1999), pp. 583-89.

¹⁶ The Health Care Challenge: Acknowledging Disparity, Confronting Discrimination, and Ensuring Equality, Vol I, The Role of Governmental and Private Health Care Programs and Initiatives. A Report of the United States Commission on Civil Rights, September 1999.

¹⁷ *The Health Care Challenge: Acknowledging Health Disparity, Confronting Discrimination, and Ensuring Equality, Volume 1, The Role of Government and Private Health Care Programs and Initiatives*, A Report of the U.S. Civil Rights Commission, September 1999. *Health Care Rx*, p.12

¹⁸ Miriam Komaromy et al., "The Role of Black and Hispanic Physicians in Providing Health Care for Underserved Populations," *New England Journal of Medicine*, vol. 334 (May 16, 1996), pp. 1305-10.

A study published last year in the *American Journal of Public Health* identified a small number of factors that were powerful predictors of whether generalist physicians provide care to the underserved—one of which is being a member of a medically underserved racial or ethnic group. Other predictors are: having participated in the National Health Service Corps; having a strong interest in practicing in an underserved area prior to attending medical school; and growing up in an underserved area. Three of the four predictors can be identified at the time of admission to medical school, which suggests that using this information to select medical school applicants could substantially increase the proportion of physicians caring for underserved populations.¹⁹

A 1999 national survey by the Kaiser Foundation found 35 percent of African Americans and 30 percent of Latinos believe that racism is a major problem in health-care. Only 16 percent of Caucasians shared that belief. The same survey found that, despite years of poorer health outcomes for African Americans, most Americans are unaware that African Americans fare worse on key health measures. For example, the survey found that the majority of Americans are not aware that infant mortality is higher for African American infants than for Caucasian infants (39 percent of Caucasians believe infant mortality rates are equal). It also found that 57 percent of Caucasian Americans and 53 percent of African Americans are unaware that life expectancy is shorter for African Americans.

These perceptions appear to exist in Washington State as well. A recent survey conducted by Public Health-Seattle & King County found that nearly one in three African Americans residing in Central and Southeast Seattle felt they had been discriminated against when receiving health-care. One respondent reported that during a blood draw at a major medical center the attending physician stated, “Being a typical Black woman, I bet you haven’t dieted in over 20 years.” Another respondent reported that when she requested pain medication for a breast biopsy the nurse refused to give it to her and said, “You people accepted pain as part of slavery because you tolerate pain so well.” In more than one-third of the events, sufficient information existed to support the probability that race was the primary factor in the event. Many interviewees reported they actively avoid offending personnel or institutions. Some reported they postpone care because of the negative treatment or because they do not know where else to go for health-care.

One recent study by University of North Carolina researchers found concluded it is not necessary for African American patients to be treated by African American physicians to achieve better care. The researchers examined how racial matching of 2,867 elderly North Carolina residents and their regular physicians related to effectiveness of care, use of resources and satisfaction with care. Regardless of a physician’s race, African American patients with hypertension were more likely to take antihypertensive medication than Caucasian patients.²⁰

¹⁹ Howard K. Rabinowitz, James J. Diamond, Jon Veloski, and Julie A. Gayle, “The Impact of Multiple Predictors on Generalists Physicians’ Care of Underserved Populations,” *American Journal of Public Health*, vol. 90, No. 8 (Aug 2000), pp. 1225-28.

²⁰ Howard, PhD, Thomas Konrad, PhD, Catherine Stevens, and Carol Porter, “Physician-Patient Matching, Effectiveness of Care, Use of Resources, and Patient Satisfaction,” Research on Aging 23(1), January 2001.

The Subcommittee does not believe that patients should choose a provider solely on the basis of race or ethnicity, nor does it believe that a provider must be from the same race or ethnicity to communicate effectively with a patient. But, the vast majority of research clearly demonstrates that minority providers may be more effective than non-minority providers in addressing the cultural, linguistic, and trust issues that exist for many minority patients.

Composition of Washington’s Health-Care Workforce

When the Subcommittee set out to assess the racial and ethnic composition of Washington’s health-care workforce, it determined that Washington lacks adequate data. Until 1998-99, the state collected data on licensed health-care providers through a voluntary survey that went out with licensing renewal forms. Department of Health data from the Health Professional Licensing Survey provided “who, what, and where” information on health professionals practicing in Washington State. The survey was conducted as part of the Health Personnel Resource Plan (HPRP). Because funding for the HPRP ended in 1999, the most recent statewide health-care workforce data for Washington State was collected in 1998-99.

The Subcommittee decided to use the available data from 1998-99 to analyze the minority composition of five professions—physicians, physician assistants, nurse practitioners, registered nurses, and practical nurses. It then quantified existing shortages in the minority health-care workforce in two ways:

First, it determined the ratio of providers to population for each racial and ethnic population group. The Subcommittee calculated the number of providers that would be needed to reach provider-to-population ratio parity for all minority populations. It used the Caucasian population as the index because Caucasians represent the largest proportion of the population (81.8 percent) and enjoy better health status than most minority populations.

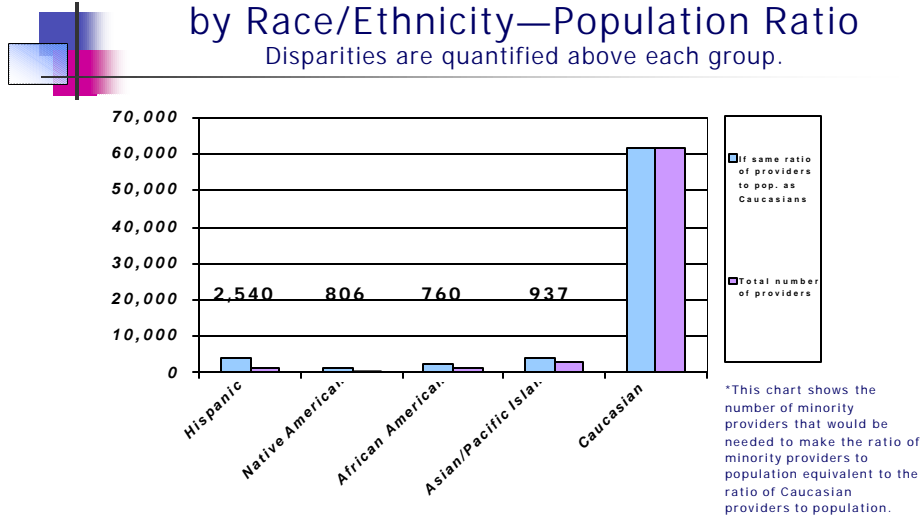
Of Minority Providers
Minority **Population**

of Caucasian Providers
Caucasian **Population**

For each of the four major race and ethnic groups, there was a significant gap between the number of minority providers licensed and the number that would be expected if the provider-to-population ratio were the same as it was for Caucasians.

Actual vs. Needed* Health Care Providers by Race/Ethnicity—Population Ratio

Disparities are quantified above each group.



Next, the Subcommittee calculated minority workforce shortages by determining the ratio of providers to disease load for each population, using Caucasians as the index.

Of Minority Providers

of Caucasian Providers

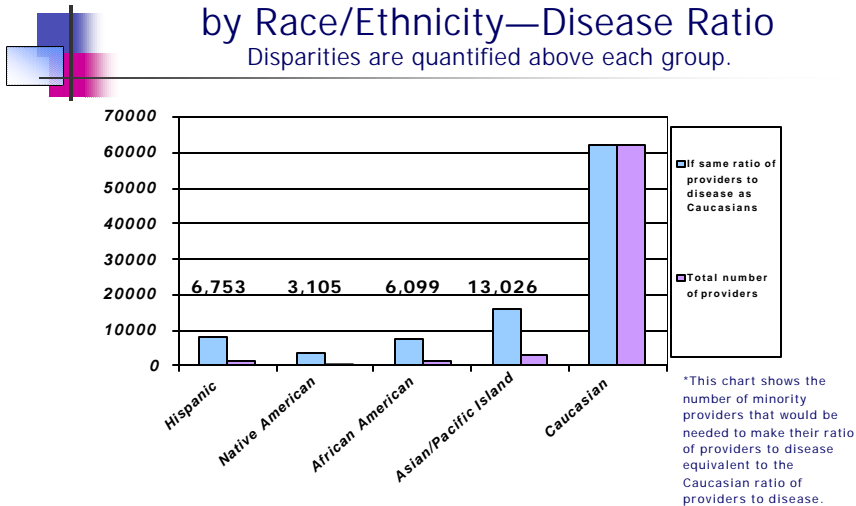
Cases of Disease in Minority Population

Cases of Disease in Caucasian Population

Workforce shortages are much more severe when excess disease burden was factored in.

Actual vs. Needed* Health Care Providers by Race/Ethnicity—Disease Ratio

Disparities are quantified above each group.



Estimates of the disease load were based on five conditions showing health disparities: AIDS, asthma, cervical cancer, diabetes and tuberculosis. The Subcommittee recognizes that estimates of the gap may change significantly depending on the conditions chosen, so it worked closely with the Department of Health's Office of Epidemiology to identify the conditions that best represent the health disparities seen in these populations.

When the Subcommittee compared the minority workforce to the minority population, it found that 5,043 minority providers would be needed to reach parity. When the Subcommittee compared the minority workforce to the minority disease burden, it found that an additional 28,983 minority providers would be needed in the current workforce of licensed physicians, physician assistants, nurse practitioners and practical nurses.

Washington's Academic Pipeline

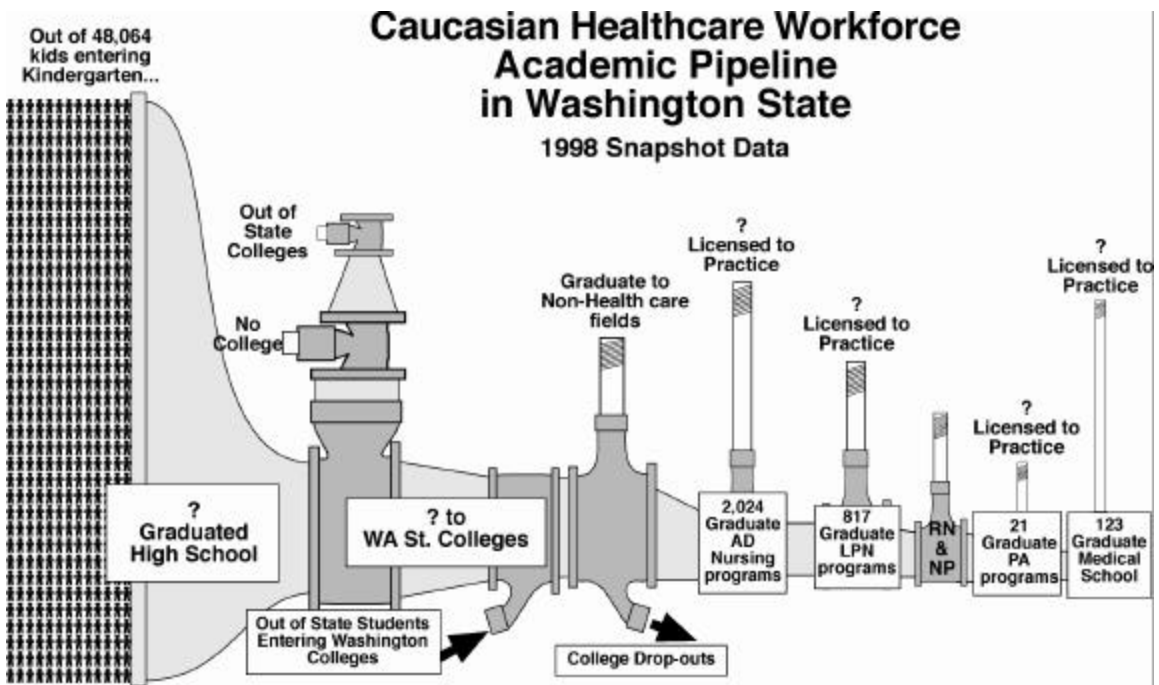
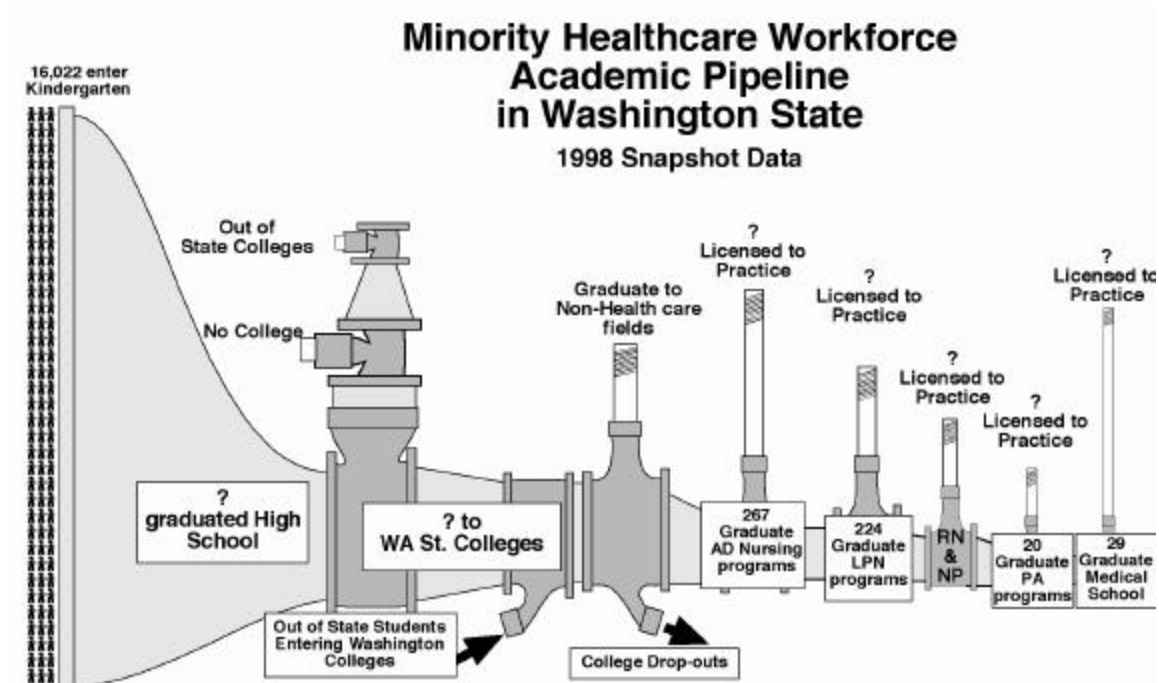
Next, the Subcommittee examined the current academic pipeline that represents how a subset of the health-care workforce develops—starting in the primary grades, flowing through the secondary, undergraduate and graduate and professional schools, and ending with professional licensing.

People in the pipeline are not exclusively students. A health-care provider who wants to advance to a higher-level health profession in the middle of their career enters the pipeline at that point. A foreign-trained health professional seeking licensure in Washington enters the pipeline at that point. Increasing the number of minorities in the pipeline is a long-term means of increasing the number of minority health-care providers.

The Subcommittee recognizes that Washington's health-care workforce includes dozens of licensed and otherwise credentialed professionals, as well as others whose special expertise is essential to maintaining and improving the health status of the state's population. But for purposes of illustrative analysis, the Subcommittee analyzed data for registered nurses and practical nurses with two-year associate degrees, as well as physicians, and physician assistants.

To get a better picture of how well racial and ethnic minority students are currently moving through the academic pipeline, the Subcommittee created two pipelines: a minority pipeline and a Caucasian pipeline. Both pipelines begin with kindergarten and end with a health profession licensing. The data presented in these pipelines are from 1998.

By comparing the two pipelines, the Subcommittee found that a student of color who enters the pipeline in kindergarten is only half as likely, compared to a Caucasian student, to emerge from the other end as a licensed physician, physician assistant, or nurse. Of the students entering the pipeline in kindergarten, 6 percent of all Caucasian students who enter eventually emerge as a member of one of these professions, versus only 3 percent of all minority students who enter the pipeline.



Although the state's public school system is proposing to follow students throughout the pipeline with a set of data elements that includes race and ethnicity, at this time there are no data about race and ethnicity at early points along the pipeline. The Subcommittee knows for certain only how many students enter the pipeline and how many emerge with degrees in the four health professions analyzed.

The Subcommittee believes that the current academic pipeline is inadequate to serve the state's increasingly diverse citizens. It is not producing enough minority health-care workers to close the gap between current numbers and the numbers needed to achieve parity based on disease burden (or, for that matter, based on population).

To the degree possible given the limited availability of data, the Subcommittee examined each component of the pipeline individually. It reviewed K-12 student performance to compare minority student performance to Caucasian student performance. It looked at how colleges are encouraging and preparing students for health-care careers. It also evaluated the number of people entering graduate school and graduating. Finally, it looked at who ends up getting licensed in Washington.

K-12

Although student-specific data for K-12 students moving through the early part of the pipeline will not be available until fall 2001, the Subcommittee evaluated how well students are doing early on in the pipeline based on their Washington Assessment of Student Learning (WASL) test scores. The 1998/99 statewide test score trends for fourth, seventh and tenth graders by race and ethnicity show large disparities. Roughly 85 percent of African American, Native American, and Hispanic students in Washington State are failing to meet the state standard in math. Although the percentages meeting the state standards for reading and writing are slightly better, African American, Native American, and Hispanic students lag far behind Caucasian and Asian students in these areas as well. (See Appendix D.)

The scores show that less than one-fifth of fourth grade African American, Native American and Hispanic students are able to do grade-level math. Less than one-fourth of these same students are reading at grade level. Less than one-tenth of these students are able to do grade-level math in seventh grade. Scores do not get much better for our tenth-graders. The Subcommittee is concerned about keeping minority students in the pipeline and preparing them academically to be ready to pursue a career in health.

The Superintendent of Public Schools has identified improving minority students' WASL test scores as one of her priorities. She has publicly announced that she is interested in partnering with others to achieve this goal. The Board strongly supports any efforts that will result in greater academic success for our minority students.

Undergraduate

Undergraduate education is provided by post-secondary schools, which include vocational and technical schools and two- and four-year colleges and universities.

The State Board of Community and Technical Colleges (SBCTC) collects data on all Washington State community and technical college students. These schools offer a large number of health-related programs including degrees in practical nursing and other allied health programs. The SBCTC recently presented data on the diversity of its student enrollments and completions from its programs. The state's community and technical colleges are seeing an increase in the percentage of minority students in the allied health programs. However, the majority of these students are graduating from the lower wage and middle wage allied health programs such as nursing assistant and practical nursing instead of from the higher wage programs such as associate degree nursing (RN) and dental hygienist programs.

The Washington State Higher Education Coordinating Board (HEC Board) is a nine-member board of citizens, appointed by the governor, to represent the broad public interest in the development of higher education policy. The HEC Board is required by statute to make recommendations to increase minority participation, and to monitor and report on progress of minority participation in higher education. Its *1996 State of Washington Master Plan for Higher Education* underscores the continuing commitment to the value and role of racial and ethnic diversity throughout the public higher education system. The HEC Board administers state-funded student financial aid, and performs some oversight and authorization functions in addition to its financial aid and policy duties. It is also responsible for maintaining data and statistical information on various aspects of higher education in the state of Washington. The data that is available is on total enrollment at institutions of higher education, degrees awarded at the various institutions, state appropriations for higher education, allocations for financial aid, and tuition and fees. However, at this time it is not possible to get statewide enrollment and graduation data by race or ethnicity for programs and schools.

Health Professional Programs

The Subcommittee defined health professional programs as any academic undergraduate programs that lead to a health-related certificate, degree, or professional license.

Application, enrollment, and graduation data by race and ethnicity are not available for every program. However, the Subcommittee found state-level information for the two-year RN and LP nursing programs, physician assistant programs, and the medical school.

²¹ Data were not available by race or ethnicity at the state or program level for four-year nursing programs.

²¹ RN and LP data are from the State Board of Community and Technical Colleges. Physician assistants programs, and the medical school are from individual programs at the University of Washington.

The Subcommittee evaluated the diversity of the health-care professional programs to determine if there are enough minority students in the health-care pipeline to meet the health needs of our minority populations. The Subcommittee conducted a survey to evaluate health-care professional programs. It looked at the percentage of each racial and ethnic minority group represented in enrollments for 1999. It then compared the percentage enrolled with percentage in the population and with the percentage needed if it's factored in the excess disease load seen within each population.

Percentage of Minority Students Enrolled in Health Professional Programs

Race/Ethnicity	% Of Population	% Of Disease	PN	RN (2yr)	PA	MD
African Am.	3.2	8	12.11	<i>3.75</i>	14.63	<i>2.29</i>
Native Am.	1.6	4	<i>1.40</i>	<i>1.54</i>	7.32	<i>1.71</i>
Asian/PI	5.9	17	<i>11.67</i>	<i>7.68</i>	<i>4.88</i>	14.86
Hispanic	7.5	9	<i>4.65</i>	<i>4.17</i>	21.95	<i>4.00</i>
Caucasian	81.8	62	69.47	81.60	<i>51.22</i>	77.14

(Bold and italicized percentages do not meet need based on disease seen in population)

The above table shows that physician assistant (PA) programs are doing well at recruiting and admitting minority students. However, the other three programs are not enrolling sufficient minority students. The two-year RN programs are the least diverse with combined minority enrollments far below what is needed to address the health needs of people of color.

Medical school data show all minorities except for Asians have student representation well below expected for each population. The American Association of Medical Colleges ranks Washington State below the national average for its proportion of graduates who are under-represented minorities. These minorities are especially under-represented when disproportionate disease burdens are taken into account.

Initiative 200's Impact on Enrollments

A challenge to efforts to increase minority representation in professional schools is implementation of Initiative 200 (I-200). Approved by Washington voters in November 1998, it eliminates preferences for employment, contracting, and public education based on race or sex. The Governor's Directive 98-01 implements I-200. The directive encourages outreach and recruitment programs, suggests efforts be designed to broaden the pool of potential contractors, and encourages diversity in the state's educational system. However, it orders that preferences in admissions based on race, sex, color, ethnicity and national origin be discontinued. While affirmative action now is illegal, the Governor and institutions of higher education recognize the inherent value of having a diverse academic environment for learning, and they are working to encourage student body diversity.

A 1999 study titled “From Affirmative Action to Health: A Critical Appraisal of the Literature Regarding the Impact of Affirmative Action” demonstrates that affirmative action efforts can affect positively health care and health status through a number of intermediary connections, such as health professions diversity and improved educational opportunities. It consistently documents the under-representation of minorities in health professions education and practice. It shows that affirmative action policies can increase the number of minorities in those programs. And it shows that literature supports a positive relationship between health professions diversity and improved access to health care for traditionally underserved populations.²²

Although no formal study has yet assessed the impact of I-200 on higher education enrollments in Washington, other states with similar laws have experienced a drop in applications from minorities. I-200 exacerbates the need to develop and maintain academic enrichment programs designed specifically of at-risk minority students in the public school system. To strengthen their academic skills, minority students are not succeeding and are not being accepted at the same rate as Caucasian applicants. Students need to be academically prepared for and interested in pursuing a health-care career if Washington is to begin to see the improvement in health disparities that can be expected with a diverse health-care workforce.

Graduate Medical Education

Graduate medical education (GME) is the process for providing academic and clinical education to physicians after they have graduated from an accredited medical school. Graduate medical education typically occurs in teaching hospitals or other health-care settings and is largely funded from patient care income. The federal government, under statute through the Medicare program, pays the largest portion of explicit GME costs in the United States by directly reimbursing hospitals their pro rata share of these costs.²³

Medicaid is the second largest explicit contributor to GME costs. Nearly all state Medicaid agencies voluntarily cover some or all GME-related expenses with a mixture of state and federal Medicaid funds. Remaining GME costs are financed by a variety of sources, including federal, state, local and private funds. Graduate medical education funds in Washington are paid to teaching hospitals (UW and Harborview), Children’s Hospital, and all other hospitals that have residency programs (about 20). Washington State’s proportion of total Medicaid inpatient expenditures for GME is 17 percent while the national average is about 7 percent.²⁴ Unlike other states with GME payments in excess of the national average, Washington attaches no requirements, such as state workforce development goals, to the use of these funds.

²²Dower MD, Catherine, Berkowitz MD, Gale, et al, Affirmative Action to Health: A Critical Appraisal of the Literature Regarding the Impact of Affirmative Action,” April 1999.

²³Graduate Medical Education and Public Policy, A Primer. HRSA, December 2000.

²⁴ National Conference of State Legislators Survey.

In Washington, and across our nation, African Americans, Latinos/Hispanics, and Native Americans are significantly under-represented in health-care. The state is actively recruiting physicians into rural communities. Despite being recognized for graduating a high number of primary care physicians, Washington's medical school has not been as successful at meeting its goal of recruiting under-represented minority medical students. In fact, the American Association of Medical Colleges ranks Washington State below the national average for its proportion of medical graduates who are under-represented minorities. Recruiting minority physicians into Washington State residency programs is another opportunity to increase the number of minority providers in our state.

Academic Enrichment and Career Development Programs

Nationally, a host of efforts are underway to reduce health disparities. In addition to Healthy People 2010 and the federal Racial and Ethnic Health Disparities Initiative declared by President Clinton and now being implemented by the U.S. Department of Health and Human Services (HHS), many national programs and other organizations have made eliminating health disparities a goal. The American Public Health Association teamed up with HHS in a landmark partnership to eliminate racial and ethnic health disparities. The partnership, which will ultimately include a large number of organizations concerned with improving the health of the U.S. population, represents a combined effort of both the public and private sector. Additionally, the National Institutes of Health Office of Research on Minority Health in 1992 launched the Minority Health Initiative, a research agenda comprised of a series of multi-year biomedical and behavioral research studies and training programs. This Initiative is designed to strengthen the National Institute of Medicine's commitment and responsiveness to the health research and training needs of minority Americans by building on previous efforts to improve the overall health of minorities and train more minority biomedical and behavioral researchers.

Many Washington State public and private organizations have also chosen to focus on reducing health disparities. In 2000, the Washington State Department of Health (DOH) established a Health Disparities Taskforce to address health disparities throughout all of the Department's Maternal and Child Health (MCH) programs. So far, the taskforce has conducted a self-assessment survey within MCH and, based on those results, identified steps needed to increase cultural competency in the programs. The taskforce is currently reviewing program data and will begin meeting with individuals and agencies in communities to identify strategies to reduce health disparities. DOH also convened a Multi-Cultural Workgroup that, as part of its work, published a working document for the department called, "Building Cultural Competence: A Blueprint for Action." In addition, the Washington Health Foundation, the Group Health Foundation, and the Race, Class, Ethnicity Committee all made reducing health disparities a priority. Health disparities will be the focus of the state's annual Joint Public Health Conference in October 2001.

The Subcommittee surveyed statewide efforts that could lead to greater health-care workforce diversity, and it was heartened to see that Washington's education and health institutions, both public and private, share a commitment to diversity. The Subcommittee witnessed successful programs in both the public and private sector (see Appendix C). Efforts by the Bill and Melinda Gates Foundation, the Washington Department of Health, the U.S. Health Resources and Services Administration, and the U.S. Department of Education are already making a difference. Additionally, the state's Scholarship and Loan Forgiveness Program for health professionals who practice in underserved areas, the many activities of the area health education centers, and the University of Washington School of Medicine's efforts to train and place primary care providers in rural areas demonstrate that focused efforts to recruit and train health-care providers to meet specific workforce shortages can be successful.

A commitment to recruiting and retaining more students of color in all programs is evident throughout the state's higher education system. Individual schools hire specialized recruiters to work with minorities, publish targeted minority recruitment publications, establish relationships with diverse high schools, and provide ongoing support and mentoring programs for their students of color. For the 2001 legislative session, the state's education agencies—the Office of the Superintendent of Public Instruction, the State Board of Community and Technical Colleges, the Higher Education Coordinating Board, and the Council of Presidents representing the state's six baccalaureate institutions—proposed a collaborative, comprehensive effort to improve minority participation and preparedness from kindergarten through graduation from college. The measure, called the College Awareness Program, did not pass, largely because of its \$18 million price tag. Portions of it, however, particularly those pertaining to K-6 interventions, are now being considered for funding by U.S. Department of Education as part of a Fund for the Improvement of Postsecondary Education grant proposal submitted by the Evergreen Center for Educational Improvement, a public service arm of The Evergreen State College.

Because the Subcommittee believes the best way to address the shortage of minority health-care workers is to increase minority participation at all points along the pipeline, it reviewed academic enrichment and career development programs in Washington that support minority students. These programs target students at different places along the pipeline and may be funded with federal, state, local, or private dollars. Some offer after school programs or summer programs while others provide a wide range of support to students throughout their academic careers, including mentoring, tutoring, health career experiences, and college planning and preparation.

The Subcommittee identified 26 programs—13 that target K-12 students (primarily beginning in 7th grade); six that target undergraduate students; and nine that target graduate and/or health professional school students. Twelve specifically serve under-represented minority students. Only two begin during middle school or high school and continue with the student through college. None of the programs target students early in grade school and none have arrangements to move students seamlessly to other programs serving students in higher- or lower-level academic programs.

Most of the programs collect data on the number of students that participate in the program, but not on whether the student moves on to another program or continues on to college or enters the health-care workforce. There does not appear to be appreciable coordination or linkages between and among programs, which makes it difficult to support a student throughout the pipeline, especially if a program is narrowly targeted (e.g., a summer enrichment program). The Subcommittee found only three programs that kept track of students into college. There does not appear to be any correlation between the amount or source of funding and the amount of outcome data collected on students. The Subcommittee found that some of the smaller programs kept better data than the bigger, better-funded programs.

The Subcommittee believes existing efforts to diversify the health-care workforce need to be strengthened, expanded and coordinated. Each existing program is valuable, whether it is a two-week after school science program or a comprehensive enrichment program that provides a wide range of support to a student from grade school through college. Without articulation, however, opportunities for linking students with other programs are lost. Students will fall through the cracks, even if they show interest in health sciences and may be good candidates for health-care careers.

Opportunities to Strengthen Current Efforts

The Subcommittee believes that the key to improving diversity in the health-care professions—and thereby contributing significantly to the reduction of health disparities—is to increase the effectiveness of efforts to expand minority participation throughout the pipeline. The efforts could be improved by:

- Ongoing data collection that would make it possible to measure the degree to which diversity is improving;
- Guidelines that could help shape new programs and refine existing programs to improve the likelihood that they will be successful;
- An assessment tool for consistently measuring the cumulative impact of these programs at various points along the pipeline;
- Opportunities for people who have some prior health-care experience to re-enter the pipeline at appropriate points;
- Better leveraging of existing health-care training and education funds; and
- Oversight and coordination across programs to assure they are effectively promoting a diverse health-care workforce.

Ongoing Data Collection

In its evaluation of health disparities, the health-care pipeline, career development programs, and workforce, the Subcommittee discovered many missing data elements. We cannot, for example, distinguish the difference in health status between our healthier Asian Americans (e.g., Chinese and Japanese) from the newer Asian immigrants (e.g., Cambodian and Laotian) who are far less healthy. We do not know how many of our minority students are dropping out of school between 9th and 12th grades or how do their dropout rates compare to rates for Caucasians. How many minority students versus

Caucasian students are successfully completing high school and going on to college? How many minority students are entering into and successfully completing health-related programs? These are questions the Subcommittee was unable to answer. Disease data by race/ethnicity specifically for under-represented minorities are essential if we are to evaluate our success in improving health status among these populations. Data reflecting the composition of the health-care workforce are needed to identify the percentage of minorities in the various types of health-care professions. The following kinds of data are needed to understand the health-care workforce and assess its effectiveness.

Disease Data

In assessing health disparities among Washington's racial and ethnic minorities, the Board Subcommittee discovered that data on disease conditions are not broken down to include all under-represented minority populations. The biggest concern currently is the inability to tease apart the Asian/PI population apart to identify the under-represented newer Asian immigrants populations such as Cambodians and Laotians. This will most likely become an issue for Caucasians too, as Washington's Russian and other Eastern European populations grow.

K-12

The state public school system has begun collecting some data on students and has drafted a proposal for collecting a set of elements to define the core student record system. The Subcommittee would like to see the data set include *at least* the following:

- Student ID code
- Date enrolled in the system
- Date exited from the system
- Grade level
- Expected year of graduation
- Race/ethnicity
- Language ability
- Program participation (e.g., LAP, LEP, gifted, bilingual, free/reduced lunch, migrant, etc.)
- Enrollment status
- GPA

Being able to follow individual students is especially important for assessing whether students who are failing to meet state standards are getting the academic help they need to succeed in school and make it through the pipeline. The Board encourages the state public school system to select and begin collecting the essential data elements to determine how many students are successfully making it through the pipeline, and if they are not, why not. Ideally this data set would allow us to follow and evaluate a student's progress throughout the K-12 pipeline and into post-secondary school.

Undergraduate Education

The Integrated Post-Secondary Education Data System (IPEDS) from the National Center for Education Statistics releases annual data on all post-secondary institutions in the 50 states, the District of Columbia, and the outlying areas that are eligible to participate in Title IV federal financial aid programs. IPEDS is a single, comprehensive system designed to encompass all institutions and educational organizations whose primary purpose is to provide postsecondary education. Institutions complete a series of nine on-line surveys, providing data in such areas as enrollments, program completions, faculty, staff, and finances. Although completion is required, data are frequently incomplete and schools make different assumptions when completing the survey.

The IPEDS data can be tabulated by level of degree/award, program category or specialty, gender and race/ethnicity of recipient, and other institutional characteristics, as well as by state and region. The IPEDS completions data for educational programs is supplying Health Services and Related Occupational Training Programs for Washington State.

It is an involved process to download raw IPEDS data from all Washington state schools and sort by program or employment category. There is no ready source where Washington enrollment and completion data is compiled by degree program or employment code. The Subcommittee was able to obtain data, however, for four health professions by contacting the programs directly. Based on that data, we learned that the Caucasian pipeline produces twice the percentage of health-care providers than was produced by the minority pipeline.

Health Career Development Programs

Most of the programs the Subcommittee looked at collect data on the number of students that participate in the program—not whether the student moves on to another program or continues on to college or enters the health-care workforce. Further, the Subcommittee discovered that there are no consistent guidelines for measuring the success of these programs. Therefore, there is no common data to use for comparison. There does not appear to be any coordination or linkage between and among programs, which makes it difficult to support the student throughout the pipeline and link students to other programs. Therefore, the Subcommittee believes that a set of health-care development guidelines would be useful to organizations developing and funding new health career development programs and interested in improving current programs aimed at increasing diversity. Guidelines would help assure funds expended are used to achieve common objectives. Program guidelines are more likely to encourage coordination and collaboration across programs.

Health-Care Workforce

Statewide health-care workforce data has not been collected since the 1999 demise of the Health Professions Resource Plan and the Health Professional Licensing Survey.

Currently, data is not collected among the various health professional groups, including physicians, nurses, dentists, non-physician clinicians such as physician assistants, chiropractors, podiatrists, optometrists and opticians, pharmacists, mental health workers, allied health professionals, auxiliary health professionals, and public health professionals. Data are being collected on rural health-care providers but that is limited to rural communities with fewer than 20 primary care providers.

The Subcommittee believes that we should be collecting data on our entire health-care workforce, not just the licensed providers or the primary care providers. In the absence of a comprehensive health-care workforce database, the Subcommittee would like to see periodic surveying by associations of health professionals of their Washington memberships.

The current workforce could be assessed through periodic surveying of hospitals, long-term care facilities, group homes, home health-care agencies, private clinics and practices, and regional, state, and local public health agencies. Associations representing health professionals (including at least those for physicians, nurses, dentists, pharmacists, mental health workers, health educators, environmental health workers, and public health nurses) could initiate efforts to regularly collect and disseminate information on the racial and ethnic composition of their Washington memberships. These associations could initiate these efforts independently or they could collaborate with agencies such as the Center for Workforce Studies at the University of Washington, the Public Health Improvement Partnership, the Washington State Hospital Association, or private foundations. Associations representing each type of health-care facility also could conduct surveys. The public health workforce could be assessed through the Public Health Improvement Plan. Surveys would need to collect data on both licensed and non-licensed health-care professionals and would need to include detailed race and ethnicity data. Surveys should be conducted on a regular basis, such as every two years.

Guidelines and best practices

Given the value of health-career development programs and the need for coordination among them, the Subcommittee developed a set of Health Career Development Guidelines listing best practices for academic enrichment programs reaching out to minority students. These guidelines may be used to design new programs or to evaluate and/or expand existing programs. Foundations and other funding entities can also use these guidelines to identify programs to fund and support.

Based on a review of programs and the literature, the Subcommittee found that “best practice” guidelines for activities offered by academic enrichment programs would provide students with the best opportunity for academic success. These included mentoring, tutoring, test-taking skills development, math and science enrichment, volunteering or internship opportunities, and college preparation, including instructions

on how to fill out applications and financial aid forms, as well as linking the students with college admissions representatives. While no one has yet determined which of these components are most important, the Subcommittee believes that programs offering a combination of these activities will be the most successful at moving students through the pipeline and into college and beyond. In addition, programs that coordinate with others will be more successful. The Subcommittee developed the following guidelines for career development programs:

For all health career development programs:

7. Establish and track outcomes
8. Recruit from populations with disproportionate disease burden and/or underserved communities
9. Provide access to tutorial academic support
10. Provide mentoring
11. Assure program continuity by implementing a strategy for continued funding or inclusion in “mainstream” educational institutional practices
12. Provide articulation between programs

For early education efforts

4. Initiate early in a child’s education (grade school)
5. Build a strong foundation in math, science and reading
6. Promote parent involvement in the student’s education

Middle school and high school:

1. Initiate efforts to spark interest in a health-care career as early as possible
2. Provide opportunities for health-related jobs, internships and volunteering
3. Provide students with information on colleges and link students with college admissions representatives and health professional school representatives

Assessment tool—a diversity report card

The Subcommittee was unable to adequately gauge the progress of under-represented minority students through the academic pipeline, into health-related programs, and into our health-care workforce. After 1998-99, we know virtually nothing about our health-care workforce. The Subcommittee recognizes the challenges to quickly developing and implementing a comprehensive health-care workforce data set, though it considers such a dataset to be critical to all health-care workforce development efforts. As an interim measure, the Subcommittee has identified specific points along the health-care pipeline where the workforce that can be measured. Either the necessary datasets currently exist, or they are being created, or they could reasonably be developed.

The Subcommittee is proposing a Health-Care Workforce Diversity “Report Card,” that identifies several places along the pipeline and in our workforce for periodic evaluation. (See Appendix E for a model of the report card.) A workforce report card would help assess the success of health-care workforce diversity programs. This type of assessment would enable programs to improve and would encourage more effective use of funds. Changes needed in a program would be more likely to be implemented because of the added level of feedback and accountability comes with measurement of outcomes.

Elements of the report card should include:

- High School graduation by race/ethnicity
- College graduation by race/ethnicity
- Practical nursing program enrollment by race/ethnicity
- Registered nursing (2yr/4yr) program enrollment by race/ethnicity
- Nurse practitioner program enrollment by race/ethnicity
- Physician Assistant program enrollment by race/ethnicity
- Medical school enrollment by race/ethnicity
- Newly licensed health-care professionals by race/ethnicity
- Health Care Workforce by race/ethnicity

For example, the Subcommittee used the disease rate ratios to calculate the percent of providers needed to meet the health needs of our minority populations. Applying a traditional grading scale to the new percentage for each race/ethnicity, the Subcommittee assigned “diversity” grades to each of the programs for which it had data.

1999 Medical School Enrollment Students by Race/Ethnicity

Race/Ethnicity	% Required to meet health needs	% Enrolled	Grade
African American	7.4	2.29	F
Native American	4.0	1.71	F
Asian/PI	17	14.86	B
Hispanic	9	4.0	F
Caucasian	62	77.14	A

Diversity Grading Scale

Race/Ethnicity	A	B	C	D	F
African American	≥ 7.2%	5.6% - 7.1%	4.8% - 5.5%	4.0% - 4.7%	< 4.0%
Native American	≥ 3.6%	2.8% - 3.5%	2.4% - 2.7%	2.0% - 2.3%	< 2.0%
Asian/PI	≥ 15.3	11.9% - 15.2%	10.2% - 11.8%	8.5% - 10.1%	< 8.5%
Hispanic	≥ 8.1%	6.3% - 8.0%	5.4% - 6.2%	4.5% - 5.3%	<4.4%
Caucasian	≥ 55.8	43.4% - 55.7%	37.2% - 43.3%	31% - 37.1%	<31%

Opportunities to re-enter pipeline

The academic pipeline runs from the primary grades through the time of health-care professional licensure. However, the pipeline is not intended to be solid—it should be penetrated at any time when someone is ready to prepare for a health-care career. It should offer numerous opportunities for someone to obtain professional licensure. This is especially important and should be encouraged for foreign-trained health-care providers who want to practice in Washington as well as those current health-care professionals that want to advance to a higher level of practice. Encouraging foreign-trained health-care professionals and mid-career advancement of current providers would increase the pool of available providers as well as increase diversity among types of providers.

Better leverage of existing funds

Existing resources devoted to health-care professional development should be used to maximize opportunities for racial and ethnic minorities. The Subcommittee's analysis and discussions with its workgroup revealed opportunities to leverage use of existing funds already devoted to health-care workforce development. One such opportunity would be targeting GME funds to the training of minority providers. Opportunities of this type should be explored with organizations whose missions are devoted to building a strong workforce. While maintaining the value of existing programs, the Subcommittee recognizes there are important ways to work together to increase diversity in the health-care workforce along the pipeline.

Oversight and coordination across programs

Given nationwide and statewide interest in reducing health disparities and in addressing health-care workforce shortages, numerous opportunities for collaboration exist. These opportunities were especially apparent at the Subcommittee's workgroup meetings, which provided opportunities for representatives from different backgrounds (who might not otherwise attend the same meetings) to learn about overlapping issues and identify new opportunities for collaboration. Racial and ethnic minority interest groups, educational institutions, health-care providers and health-care facilities all have a stake in the success of workforce diversity efforts. These groups would benefit from a panel that met regularly to review each other's efforts, improve and review data collection, and evaluate the effectiveness of their programs overall. They could help assure guidelines are used and they could implement the report card.

Conclusion and Recommendations

Washington State is facing a critical shortage of health-care providers during a time of unprecedented population growth. The greatest growth is expected among racial and ethnic minority populations—the same populations that carry the greatest burden of disease and death in our state. The Subcommittee’s research confirms that Washington’s racial and ethnic minorities do bear a disproportionate burden of disease.

A significant and growing part of the population is underserved and that affects the overall health of the state. As health status improves for racial and ethnic minorities, overall health outcomes will improve, costs from preventable deaths will decrease, and the overall well being of the state will be greater.

Based on research, we know we can improve the health status of racial and ethnic minorities by creating a health-care workforce that mirrors the populations it serves. If minority health-care professionals and patients share a common language and/or racial and ethnic background, health outcomes may be better. Minority health-care professionals are also likely to provide health-care to poor and underserved patients, and are more likely to practice in underserved areas. In this way, minority health-care professionals have a greater positive impact on health status among minority populations.

Many opportunities exist to build a diverse health-care workforce such as increasing and enhancing recruitment and retention programs for racial and ethnic health-care providers, improving preparation of minority students during their K-12 education so that they will be more competitive in applying to health-care professional schools, and establishing outcome measures to assess if programs are working. Information needs to be collected and made available to track progress in minority health-care workforce development, recruitment, and retention.

Based on the Subcommittee’s belief that a diverse health-care workforce can improve the health status of racial and ethnic minorities in Washington and of the overall state population, the Subcommittee has developed six recommendations to improve the composition of the health-care workforce. These recommendations will be reviewed and considered for approval by the State Board of Health at its May 9, 2001 meeting.

Recommendation 1: Enumerate the composition of health-care workforce

The Subcommittee recommends that associations of health professionals—including at least those for physicians, nurses, dentists, pharmacists, mental health workers, health educators, environmental health workers, and public health nurses—initiate efforts to regularly collect and disseminate the racial and ethnic composition of their Washington memberships. These associations could initiate these efforts independently or they could collaborate with agencies such as the University of Washington’s Health Care Workforce Resources Center, the Public Health Improvement Partnership, the Washington State Hospital Association, or private foundations.

Recommendation 2: Establish guidelines for health career development programs

The Subcommittee recommends that organizations or individuals interested in developing, funding, or assessing programs that seek to increase the number of minority health-care workers consider the following guidelines:

For all health career development programs:

1. Establish and track outcomes
2. Recruit from populations with disproportionate disease burden and/or underserved communities
3. Provide access to tutorial academic support
4. Provide mentoring
5. Assure program continuity by implementing a strategy for continued funding or inclusion in “mainstream” educational institutional practices
6. Provide articulation between programs

For early education efforts

1. Initiate early in a child’s education (grade school)
2. Build a strong foundation in math, science and reading
3. Promote parent involvement in the student’s education

Middle school and high school:

4. Initiate efforts to spark interest in a health-care career as early as possible
5. Provide opportunities for health-related jobs, internships and volunteering
6. Provide students with information on colleges and link students with college admissions representatives and health professional school representatives

Recommendation 3: Facilitate training and credentialing of people with prior health-care experience

The Subcommittee recommends that licensing boards explore ways to expand the roles of qualified minorities who already have some health-care training—namely, foreign-trained health professionals and mid-career health workers interested in advancement. Opportunities include ensuring that the credentialing process provides appropriate credit for prior training and experience (whether obtained here or abroad) and creating internships and supervised practice opportunities for foreign-trained and mid-career professionals who are working on completing Washington credentialing requirements. Community clinics, hospitals, and practices experiencing shortages of minority providers should also consider recruiting foreign providers through the H1 Visa Program.

Recommendation 4: Create a Graduate Medical Education incentive pool

The Subcommittee recommends that the Department of Social and Health Services (DSHS) set aside a portion of the total Graduate Medical Education funds to create a GME Incentive Pool that can be leveraged to help diversify our health-care workforce. DSHS should encourage hospitals seeking GME funds to recruit under-represented minority residents or direct these funds in other ways, as outlined in this report, to bolster health-care workforce diversity.

Recommendation 5: Develop a health-care workforce diversity report card

The Subcommittee recommends development of a report card that assesses the diversity of the health-care workforce. Elements of the report card should include:

- High school graduation rates by race and ethnicity
- Two-year and four-year college graduation rates by race and ethnicity
- Professional school enrollment by race and ethnicity
- Newly licensed practitioners by race and ethnicity
- Total practicing health providers by race and ethnicity

Recommendation 6: Coordinate Health-Care Workforce Diversity Efforts

The Subcommittee recommends that associations for the state's health-care practitioners, hospitals, community clinics and public health officials convene a broad-based, public/private panel to coordinate efforts to improve health-care workforce diversity. Interested representatives from public and private institutions including state agencies (Office of the Superintendent of Public Instruction, State Board of Community and Technical Colleges, Higher Education Coordinating Board, Department of Health, Department of Social and Health Services, Workforce Training Board), academic research centers, organized labor, private philanthropic foundations, and other interested parties should participate to review each one another's efforts, improve and review data collection, and evaluate the effect of programs overall. The panel should review, refine and promote the use of the guidelines contained in this report and compile the recommended report card. It should also ensure that organizations around the state are aggressively pursuing public and private funds to expand existing efforts. Finally, it should consider whether the state needs a mechanism for systematically analyzing and developing its health-care workforce, and if so, recommend a mechanism. The Board should ask the convening associations to report back by fall 2002 on the status of efforts to diversify Washington's health-care workforce.

Appendix A: Conditions showing disparities

Disparities affecting all four minority groups	TB incidence Cervical cancer mortality
Disparities affecting three minority groups	HIV incidence STDs Gonorrhea, Chlamydia incidence Diabetes mortality Asthma mortality Teen birth rate
Disparities affecting two minority groups	Hepatitis B incidence Stroke mortality Motor-vehicle crash injury mortality Traumatic brain & spinal injury mortality Drowning mortality Homicide Infant mortality Total mortality
Disparities affecting one minority group	Hepatitis A incidence Syphilis incidence Coronary heart disease Lung cancer Colorectal cancer COPD Youth suicide Low birth weight

Number of conditions showing disparities

African American	18
American Indian and Alaska Native	16
Asian and Pacific Islander	3
Latino	11

Basis: Examination of rates for 24 conditions, plus total mortality, in 1996 *Health of Washington State* with its 1998 *Addendum* (age-adjusted death rates, plus crude incidence rates and birth rates), and subsequent analyses using VISTA, the Washington State Department of Health vital statistics database.

Appendix B: Minority Health-Care Workforce Workgroup

Neal Adams , Region X, Department of Health and Human Services
Juan Alaniz, Washington State Health Care Authority
Trudy Arnold, Western Washington AHEC
Michael Azzato, University of Washington, WWAMI Center for Workforce Studies
Laura-Mae Baldwin, University of Washington, Department of Family Medicine
Terry Bergeson, OSPI
Bobbie Berkowitz, University of Washington, School of Nursing
Joan Brewster, Department of Health
Miebeth R. Bustillo Hutchins, Washington State Commission on Asian Pacific- American Affairs
Gary Christensen, Washington State Health Care Authority
Rhonda Coats, DSHS
Onofre Contreras, Washington State Commission on Hispanic Affairs
Kimberly Craven, Governor's Office of Indian Affairs
Robert Crittenden, UW School of Medicine
Dorothy Detlor, ICNE/WSU – College of Nursing
Christine Edgar, University of Washington
Jim Falco, Heritage College
Ralph Forquera, Seattle Indian Health Board
Charlie Garcia, University of Washington, Office of Multicultural Affairs
Maria Garcia, National Health Service Corps.
Marc Gaspard, Higher Education Coordinating Board
Earl Hale, State Board of Community and Technical Colleges
Peter Houck, Region X, Department of Health and Human Services
Aaron Katz, University of Washington, Health Policy and Analysis Program
Ernest Kimball, HCFA
Pamela G. Lovinger, DOH
Richard Lyons, HRSA
Steve Meltzer, Eastern Washington AHEC
Marsha Miller, Northwest Primary Care Association
Frances Munet, University of Washington
Sid Nelson, University of Washington, School of Pharmacy
Tony Orange, Washington State Commission on African American Affairs
Lyle Quasim, King County Executive
Marcia Riggers, OSPI
Paul Robertson, University of Washington, School of Dentistry
Gloria Rodriguez, Washington Association of Community and Migrant Health Centers
Linda Ruiz, Region X, Health Care Financing Administration
Kelly Shaw, DOH
Vince Schueler, DOH
Sue Skillman, WWAMI Center for Workforce Studies
Michael Smyser, Seattle-King County Public Health
Kris Sparks, Department of Health
Teresa Stone, Office of Superintendent of Public Instruction
Janice Taylor, DOH, Workforce Development
Jack Thompson, Northwest Center for Public Health Practice
Pat Wahl, University of Washington, School of Public Health
Ron Weaver, Department of Health
Juno Whittaker, Department of Health
Jim Wilson, DSHS, Medical Assistance Administration
Nancy Woods, University of Washington, School of Nursing
Dorothy Wong – International District Community Health Center
Laurie Wylie, Western Washington AHEC

Appendix C: Washington State Workforce Efforts

Department of Health Office of Community and Rural Health

The Office of Community and Rural Health administers a variety of programs that support rural health workforce development. The Office has developed a rural health-care provider database in partnership with others and is currently collecting data on rural health communities with fewer than 20 primary care providers.

Department of Health Public Health Improvement Plan

Public health workforce development
(Get from Janice Taylor)

Area Health Education Center at Washington State University (WSU)

The AHEC at WSU Spokane has served the 20 eastern Washington counties since 1985 and supports and/or provides multiple programs targeting minority and rural students into health careers. The Health Careers Ambassador program, for example, works with community representatives to sponsor health career fairs, mentorships, summer camps and in-school nursing assistant courses. Over the past several years, approximately 6,000 junior and senior high school students have participated each year; one-third of these are Hispanic and Native American students. Other AHEC/WSU supported programs such as the WWAMI Medical Scholars Summer Camps and U-DOC Program are specifically targeted to minority students. There are at least three students who are now in medical school at the University of Washington who participated in a Medical Scholars Summer Camp. The WSU Spokane CityLab Program, which provides high school students hands-on laboratory experience, has been provided in the Toppenish, Moses Lake and other rural schools with high minority population through AHEC funding and Ambassador support. The AHEC at WSU Spokane has also been a partner in developing minority focused health professions grants in conjunction with Native American communities, higher education institutions and state agencies. The Washington AHECs are currently participating with the Office of Community and Rural Health/DOH and the Health Professions Workforce Center at the UW School of Medicine in creating a new statewide rural health professions database that will help track community needs.

The Area Health Education Center, Western Washington

The Western Washington AHEC provides a continuum of activities all aimed at recruiting and retaining primary health-care providers to rural and underserved areas, including efforts to attract a diverse workforce into the pipeline. Efforts start with science enhancement and health career exploration activities for K-8. Mentorship and internship opportunities are available for 9-12 grade students, as well as career information for students, parents and school counselors. Community health professionals are identified as mentors and resources for local schools and are given resource materials and support. AHEC staff members attend Career Fairs, conduct classroom presentations and they arrange and support clinical rotations in rural and urban underserved areas for students

during their professional training. The AHEC is a partner in the Washington Recruitment Group, matching primary care candidates with rural and urban underserved practices.

Health Professional Loan Repayment and Scholarship Program

The Health Professional Loan Repayment and Scholarship Program provides financial support in the form of loan repayment to encourage primary health-care professionals to serve in shortage areas.

University of Washington School of Medicine

The School of Medicine Office of Multicultural Affairs has multiple efforts targeted to encourage the training of racial and ethnic minority physicians. A sampling of these include:

- Prematriculation Program – facilitates medical student's entry into medical school through special instruction and student enrichment activities.
- Minority Medical Education Program – offers undergraduates and some post-baccalaureate student's enrichment opportunities in sciences, mathematics, writing and study skills in preparation for the MCAT and the medical school application process.
- U-DOC – for high school juniors and seniors encouraging exploration of health careers.
- Native American Center for Excellence -- established in 1992, the Center encourages Native American students to pursue professional and academic careers in medicine.

University of Washington School of Public Health and Community Medicine

The School of Public Health's strategic plan places a high priority on workforce diversity, including extensive efforts on workforce diversity in recruitment and retention for faculty and students. It has formed a taskforce to help accomplish this. In addition, the Office of Student Affairs is participating in efforts working with minority students in high school and undergraduate programs to get them interested in public health careers. The Northwest Center for Public Health Practice at the School of Public Health is collaborating with others including the Board of Health to encourage diversity in the public health workforce.

Northwest Public Health Training Center, School of Public Health and Community Medicine, Department of Health Services, University of Washington

One of eight HRSA funded Public Health Training Centers in 2000 to serve the existing public health workforce. The Centers' training activities are a foundation for improving the infrastructure of the public health system and helping to achieve the objectives of Healthy People 2010.

Regional Center for Health Workforce Studies, University of Washington

The Center for Health Workforce Studies, one of four regional centers, is located at the University of Washington. The Center works cooperatively with the other regional centers and with the National Center. The Center conducts analyses of pressing health workforce issues. The analyses include a review of the 1998/99 surveys that went out to

licensed providers to assess our health-care workforce (our most current information on our health-care workforce) and a current study to assess our State's nursing workforce.

The Center is currently working in partnership with the Washington State Hospital Association to survey nurses practicing in Washington State.

University of Washington School of Nursing

The School of Nursing has developed a plan, "Into the Twenty First Century: A Plan for 1999-2004," that includes, as part of its mission, to provide services that promote the health and well being of diverse individuals, families, communities, populations, and systems. The School is committed to the goals of recruiting and retaining a diverse student body, faculty, and staff.

Intercollegiate Center for Nursing Education (ICNE)

The ICNE has long had a Native American recruiter to work with Native American tribes in eastern Washington to recruit potential students into their nursing program; this is a strong and active program that has had much success. In addition, ICNE has secured private funding from the Hearst Foundation for the last ten years to cover tuition costs for Native American and Hispanic students.

Washington State Hospital Association

The WSHA is partnering with other stakeholders to support efforts aimed at recruitment, education, training, and retention and development of a qualified, diverse health-care workforce.

Office of the Superintendent of Public Instruction

Preparing our future workforce is the public school system's most important responsibility. Creating a more diverse health workforce is part of that responsibility. Adopting existing tools and partnering with other stakeholders to develop and introduce health-related teaching tools will help address health-care workforce shortages. Choosing curriculum materials, posters, and videos that are inclusive is a standard procedure in program planning and implementation. Working to solve the "English as a Second Language" challenges is an on-going and pressing issue. OSPI is establishing ESL standards and a test that all students in bilingual programs will take. This will be the first step in identifying successful programs and best practices that can be duplicated in other places. As career pathway programs, and specifically the Health and Human Services Pathway, are implemented in schools, program planners and counselors will be available to direct **all** students who show interest toward a health-care career. These efforts are paid for as part of basic education, vocational education, Carl Perkins, and equity funds.

Appendix D: K-12 WASL Results

Washington Assessment of Student Learning (WASL) Test Results, 4th – 10th Grades

4th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Math
African American	15.3
American Indian	17.4
Hispanic	14.2
Asian	41.7
Caucasian	42.5

4th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Reading
African American	39.3
American Indian	37.3
Hispanic	31.3
Asian	59.5
Caucasian	65.3

4th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Writing
African American	20.7
American Indian	16.6
Hispanic	16.2
Asian	42.3
Caucasian	35.6

4th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Listening
African American	54.1
American Indian	55.3
Hispanic	48.7
Asian	69.2
Caucasian	76.5

7th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Math
African American	6.8
American Indian	8.5
Hispanic	7.2
Asian	28.5
Caucasian	28.1

7th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Reading
African American	19.5
American Indian	19.2
Hispanic	17.8
Asian	40.6
Caucasian	46.3

10th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Math
African American	9.5
American Indian	14.3
Hispanic	11.6
Asian	37.3
Caucasian	38.1

10th Grade WASL Test Scores: State Trends for 1998/99

Race/Ethnicity	Percentage of Students Meeting State Standard for Reading
African American	26.1
American Indian	29.6
Hispanic	26.0
Asian	48.5
Caucasian	58.3

Appendix E: Model Health-Care Workforce Diversity Report Card

K-16 Pipeline

High School Graduation

African American
Asian/PI
Native American
Hispanic

College Graduation 2 Yr 4 Yr

African American
Asian/PI
Native American
Hispanic

Nurse Practitioners

Professional School Enrollment

African American
Asian/PI
Native American
Hispanic

Newly Licensed Practitioners

African American
Asian/PI
Native American
Hispanic

Practical Nurses

Program Enrollment

African American
Asian/PI
Native American
Hispanic

Newly Licensed Practitioners

African American
Asian/PI
Native American
Hispanic

Physicians Assistants

Professional School Enrollment

African American
Asian/PI
Native American
Hispanic

Newly Licensed Practitioners

African American
Asian/PI
Native American
Hispanic

Registered Nurses

Program Enrollment 2 Yr 4 Yr

African American
Asian/PI
Native American
Hispanic

Newly Licensed Practitioners

African American
Asian/PI
Native American
Hispanic

Physicians

Professional School Enrollment

African American
Asian/PI
Native American
Hispanic

Newly Licensed Practitioners

African American
Asian/PI
Native American
Hispanic